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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/722,059	11/25/2003	Ronnie J. Duncan	SDRK-1-1023	4164
25315	7590	08/04/2004	EXAMINER	
BLACK LOWE & GRAHAM, PLLC 701 FIFTH AVENUE SUITE 4800 SEATTLE, WA 98104			TRIEU, THAI BA	
			ART UNIT	PAPER NUMBER
			3748	

DATE MAILED: 08/04/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/722,059	Applicant(s) DUNCAN, RONNIE J.	
	Examiner Thai-Ba Trieu	Art Unit 3748	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4, 6, 7, 9, 12, 13, 15, 17, 18 and 20 is/are rejected.
- 7) ☒ Claim(s) 5, 8, 10, 11, 14, 16 and 19 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>6/10/2004</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Specification

The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: Specifically:

- In claims 1, lines 2 and 4; claim 2, line 2; claim 3, line 1; claim 12, line 2; and claim 17, line 2, the recitation of "**intake products**" should be cooperated with specification.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

1. Claims **1 and 12** are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 1 of U.S. Patent No. 6,684,825 B2. Although the conflicting claims are not identical, they are not

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patentably distinct from each other because claim 1 of the patent "anticipates" application claims 1 and 12. Accordingly, application claims 1 and 12 are not patentably distinct from patent claim 1.

Patent claim 1 requires the following elements:

- combustion products being introduced into a space without being compressed in an intake stroke;
- a power stroke; and
- an exhaust stroke;
- a first rotor;
- wherein the combustion products are introduced at about ambient pressure.

while the instant application claim 1 only requires elements:

- introducing intake products into a space without compression in an intake stroke;
- igniting the intake products in a power stroke to produce combustive products; and

while the instant application claim 12 only requires elements:

- introducing intake products at approximately ambient pressure into a space without compression in an intake stroke;

- igniting the intake products in a power stroke to produce combustive products; and
- exhausting the combustive products in an exhaust stroke.

Thus it is apparent that the more specific patent claim **1** encompasses application claims **1 and 12**. Following the rationale in *In re Goodman* cited in the preceding paragraph, where applicant has once been granted a patent containing a claim for the specific or narrower invention, applicant may not then obtain a second patent with a claim for the generic or broader invention without first submitting an appropriate terminal disclaimer. Note that since Application claims **1 and 12** are anticipated by Patent claim **1** and since anticipation is the epitome of obviousness, then Application claims **1 and 12** are obvious over Patent claim **1**.

2. Claims **3-11** are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims **2-10** of U.S. Patent No. 6,684,825 B2. Although the conflicting claims are not identical, they are not patentably distinct from each other because claims **2-10** of the patent "anticipate" application claims **3-11**. Accordingly, application claims **3-11** are not patentably distinct from patent claims **2-10**.

Patent claims require the following elements	The instant application claims only require elements
<p>Claim 2: The combustion products being introduced into at greater than ambient pressure.</p>	<p>Claim 3: The intake products being introduced into at greater than ambient pressure.</p>
<p>Claim 3: The power stroke volume being about equal to the intake chamber volume.</p>	<p>Claim 4: The power stroke volume being about equal to the intake chamber volume.</p>
<p>Claim 4: The power stroke volume being greater than the intake chamber volume.</p>	<p>Claim 5: The power stroke volume being greater than the intake chamber volume.</p>
<p>Claim 5: The power stroke volume being about equal to or greater than expansion possible from the fuel air mixed used.</p>	<p>Claim 6: The power stroke volume being about equal to or greater than expansion possible from the fuel air mixed used.</p>
<p>Claim 6: The exhaust stroke pressure being about ambient pressure.</p>	<p>Claim 7: The exhaust stroke pressure being about ambient pressure.</p>
<p>Claim 7: The exhaust stroke pressure being above ambient pressure.</p>	<p>Claim 8: The exhaust stroke pressure being above ambient pressure.</p>
<p>Claim 8: The thermal cycle corresponding to an internal combustion engine.</p>	<p>Claim 9: The thermal cycle corresponding to an internal combustion engine.</p>
<p>Claim 9: The thermal cycle corresponding to an external combustion engine.</p>	<p>Claim 10: The thermal cycle corresponding to an external combustion engine.</p>
<p>Claim 10: The thermal cycle corresponding to a shaped charge or detonation cycle combustion engine.</p>	<p>Claim 11: The thermal cycle corresponding to a shaped charge or detonation cycle combustion engine.</p>

Thus it is apparent that the more specific patent claims **2-10** encompass application claims **3-11**. Following the rationale in *In re Goodman* cited in the preceding paragraph, where applicant has once been granted a patent containing a claim for the specific or narrower invention, applicant may not then obtain a second patent with a claim for the generic or broader invention without first submitting an appropriate terminal disclaimer. Note that since Application claims **3-11** are anticipated by Patent claims **2-10** and since anticipation is the epitome of obviousness, then Application claims **3-11** are obvious over Patent claims **2-10**.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-2, 4, 6, 9 are rejected under 35 U.S.C. 102(b) as best understood as being anticipated by Antrag Auf Nichtnennung (Patent Number DE 39 22 574 C1).

Antrag Auf Nichtnennung discloses a method of thermal cycle applied for a combustion engine, comprising:

introducing intake products into a space without compression in an intake stroke;

igniting the intake products in a power stroke to produce combustive products;

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and

exhausting the combustive products in an exhaust stroke (See Figure 2 and Abstract);

wherein the intake products are introduced at about ambient pressure;

and

wherein the thermal cycle corresponds to an internal combustion engine (See Abstract);

wherein the power stroke volume is about equal to the intake chamber (See Figure 2); and

wherein the power stroke volume is about equal to or greater than the expansion possible from the fuel air mix used (See Figure 2).

Note that Antrag Auf Nichtnennung inherently teaches the limitation of the intake products being introduced at about ambient pressure, since the intake products get into the engine by itself. Therefore, the pressure of the intake products would have been about or equal to the ambient/atmospheric pressure.

Claims 1 and 9 are rejected under 35 U.S.C. 102(b) as best understood as being clearly anticipated by Widen (Patent Number WO 83/00187 A1).

(See Abstract).

Claims 1 and 9 are rejected under 35 U.S.C. 102(b) as best understood as being clearly anticipated by Gleich Anmelder (Patent Number DE 19606541 A1).

(See Abstract).

Claims 1, 3, 12-13, 17-18 are rejected under 35 U.S.C. 102(b) as best understood as being anticipated by Williams (Patent Number 4,516,536).

Williams discloses a method of thermal cycle applied for a combustion engine comprising:

introducing intake products at pressures exceeding ambient pressure into a space without compression in an intake stroke (See Abstract);

producing ignition products in a power stroke, wherein the volume of the power stroke is variable (See Column 5, lines 21-24); and

exhausting the ignition products in an exhaust stroke (See Abstract).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 7, 15, 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Williams (Patent Number 4,516,536), in view of Williams (4,510,894).

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Williams ('536) discloses the invention as recited above; however, fails to disclose the exhaust stroke pressure being about ambient pressure; and the ignition products being vented at approximately ambient pressure.

Williams ('894) teaches that it is conventional in the engine art, to have the exhaust stroke pressure being about ambient pressure; and ignition products being vented at approximately ambient pressure (See Column 33, lines 21-28).

It would has been obvious to one having ordinary skill in the art at that time the invention was made, to have had the ignition products being vented at approximately ambient pressure, as taught by Williams ('894), since the use thereof would have improved the thermal efficiencies for the engine.

Allowable Subject Matter

Claims **5, 8, 10-11, 14, 16, and 19** are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

The IDS (PTO-1449) filed on June 10, 2004 has been considered. An initialized copy is attached hereto.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Kuperman (US Patent Number 5,967,103) discloses a three-cycle stroke two internal combustion engine.
- Vialette (Patent Number EP 0 020 806 A1) discloses a three-stroke engine.
- Becht (Patent Number DE 32 14 239 A1) discloses a three-stroke engine with the arrangement of its associated auxiliary units.
- Defarge Alexis (Patent Number FR 2 757 568 A1) discloses a three-stroke engine.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thai-Ba Trieu whose telephone number is (703) 308-6450. The examiner can normally be reached on Monday - Thursday (6:30-5:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas E. Denion can be reached on (703) 308-2623. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should

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you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

TTB
July 23, 2004



Thai-Ba Trieu
Patent Examiner
Art Unit 3748